

# Health and Safety Plan



## WORK LOCATION PERSONNEL PROTECTION AND SAFETY EVALUATION FORM

**Attach Pertinent Documents/Data  
Fill in Blanks As Appropriate**

Job No.: 001024.200.250

Prepared by: April Wallace

Date: February 11, 2006

Reviewed by: Evalyn Albright

Date: February 12, 2006

### A. WORK LOCATION DESCRIPTION

1. **Project Name:** Port of Bellingham /Weldcraft Steel and Marine (Gate 2 Boatyard) Site
2. **Location:** Squalicum Way and Harbor Loop Way, Bellingham, Washington
3. **Anticipated Activities:** Monitoring well installation using hollow stem auger drilling and soil sampling using GeoProbe technology; groundwater sampling
4. **Size:** < 1 Acre
5. **Surrounding Population:** Commercial
6. **Buildings/Homes/Industry:** Several buildings, open storage areas, parking lots, and a marine railway. The site is used for general shipbuilding and repair activities.
7. **Topography:** Generally flat
8. **Anticipated Weather:** Cool with possible rain
9. **Unusual Features:** Operational Shipbuilding facility
10. **Site History:** Weldcraft Steel and Marine was established on the site in 1946 and was involved in general shipyard activities, including boat construction, repair, and maintenance; wood and metal fabrication; marine pipefitting; electrical; sheet metal work; painting; machinery construction, installation, and repair; vessel haul-out and launching; concrete work; and retail and wholesale sales. The site is located on Port of Bellingham property adjacent to Squalicum Harbor.

### B. HAZARD DESCRIPTION

1. **Background Review:** ☒ Complete ☐ Partial  
If partial, why?
2. **Hazardous Level:** ☐ B ☐ C ☒ D ☐ Unknown

**3. Types of Hazards:** (Attach additional sheets as necessary)

- A. ☒ Chemical      ☒ Inhalation      ☐ Explosive  
☐ Biological      ☒ Ingestion      ☐ O2 Def.      ☒ Skin Contact

Describe: Exposure to chemical hazards from gasoline and metals contaminated soil and water. Nitrile gloves will be worn. Respirator will be worn when vapor levels warrant.

- B. ☒ Physical      ☐ Cold Stress      ☒ Noise      ☐ Heat Stress      ☐ Other

Describe: Physical hazards from equipment and overhead obstacles (e.g., overhead power lines) and location adjacent to the bulkhead may be encountered during exploration activities. Hard hats will be worn and care will be taken to avoid nearing the edge of the bulkhead. Noise hazards associated with exploration equipment. Ear protection will be used. Steel-toe boots will be worn at all times due to heavy object hazards.

- C. ☐ Radiation

Describe: NA

**4. Nature of Hazards:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Air         | <u>Describe:</u> Potential inhalation exposure to volatiles and contaminated particulates.                     |
| <input checked="" type="checkbox"/> Soil        | <u>Describe:</u> Potential inhalation, ingestion, or skin exposure to volatiles and contaminated particulates. |
| <input type="checkbox"/> Surface Water          | <u>Describe:</u>   |
| <input checked="" type="checkbox"/> Groundwater | <u>Describe:</u> Potential inhalation, ingestion, or skin exposure to petroleum and metal constituents.        |
| <input type="checkbox"/> Other                  | <u>Describe:</u>   |

## 5. Chemical Contaminants of Concern ☐ N/A

Contaminant	PEL (ppm)	I.D.L.H. (ppm)	Source/Quantity Characteristics	Route of Exposure	Symptoms of Acute Exposure	Instruments Used to Monitor Contaminant
Total Petroleum Hydrocarbons	100 (as petroleum distillates; naptha) <i>source: WA State</i>	400 mg/m <sup>3</sup> (as petroleum distillates; naptha) <i>source: NIOSH</i>	Soil and groundwater	Inhalation Ingestion Dermal contact Eye contact	Irritation of eyes, nose, and throat nausea, dizziness, headache, dry cracked skin.	Olfactory; Gas/kerosene- like odor, visual, Photoionization detector (PID)
Lead	0.050 mg/m <sup>3</sup> <i>source: OSHA</i>	100 mg/m <sup>3</sup> (as Pb) <i>source: NIOSH</i>	Soil and groundwater	Inhalation Ingestion Dermal contact Eye contact	Weakness, exhaustion, insomnia, facial pallor, constipation, abdominal pain, tremor, wrist drop, anemia, gingival lead line, eye irritation, kidney disease	Visual observation for excessive dust

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Notes:

**6. Physical Hazards of Concern**   ☒ Slip / trip, drill rig overhead, heavy lifting and pinch points, proximity to the bulkhead

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**7. Work Location Instrument Readings** ☐ N/A

Location: \_\_\_\_\_

Percent O<sub>2</sub>: \_\_\_\_\_

Percent LEL: \_\_\_\_\_

Radioactivity: \_\_\_\_\_

PID: \_\_\_\_\_

FID: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Location: \_\_\_\_\_

Percent O<sub>2</sub>: \_\_\_\_\_

Percent LEL: \_\_\_\_\_

Radioactivity: \_\_\_\_\_

PID: \_\_\_\_\_

FID: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Location: \_\_\_\_\_

Percent O<sub>2</sub>: \_\_\_\_\_

Percent LEL: \_\_\_\_\_

Radioactivity: \_\_\_\_\_

PID: \_\_\_\_\_

FID: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Location: \_\_\_\_\_

Percent O<sub>2</sub>: \_\_\_\_\_

Percent LEL: \_\_\_\_\_

Radioactivity: \_\_\_\_\_

PID: \_\_\_\_\_

FID: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Other: \_\_\_\_\_

**8. Hazards Expected In Preparation For Work Assignment** ☐ N/A
Describe:

## C. PERSONAL PROTECTIVE EQUIPMENT

### 1. Level of Protection

☐ A    ☐ B    ☐ C    ☒ D

Location/Activity: Monitoring well drilling and geoprobe soil sampling without action level conditions. Groundwater sampling.

☐ A    ☐ B    ☒ C    ☐ D

Location/Activity: Monitoring well drilling and geoprobe soil sampling with action level conditions.

### 2. Protective Equipment (specify probable quantity required)

**Respirator**    ☐ N/A

- ☐ SCBA, Airline  
☐ Full-Face Respirator  
☒ Half-Face Respirator (Combo. cart. HEPA and organic vapor) if action levels are met.  
☐ Escape mask  
☐ None  
☐ Other:  
☐ Other:

**Head & Eye**    ☐ N/A

- ☒ Hard Hat  
☐ Goggles  
☐ Face Shield  
☒ Safety Eyeglasses  
☐ Other:

**Foot Protection**    ☐ N/A

- ☐ Neoprene Safety Boots with Steel Toe/Shank  
☐ Disposable Over-boots  
☒ Other: Boots with steel toes

**Clothing**    ☐ N/A

- ☐ Fully Encapsulating Suit  
☐ Chemically Resistant Splash Suit  
☐ Apron, Specify:  
☐ Tyvek Coverall  
☐ Saranex Coverall  
☐ Coverall, Specify  
☐ Other:

**Hand Protection**    ☐ N/A

- ☐ Under-gloves; Type:  
☒ Gloves; Type: Nitrile (breakthrough <8 hrs)  
    Viton (breakthrough >8 hrs)  
☐ Over-gloves; Type:  
☐ None  
☐ Other:

**3. Monitoring Equipment** ☐ N/A☐ CGI☒ PID☐ O<sup>2</sup> Meter☐ FID☐ Rad Survey☐ Other LEL monitor (4 gas)☐ Detector Tubes (optional)Type:**D. PERSONNEL DECONTAMINATION (ATTACH DIAGRAM)**

☒ Required washing your face and hands before breaks and lunch. ☐ Not Required

**EQUIPMENT DECONTAMINATION (ATTACH DIAGRAM)**

☒ Required ☐ Not Required

*If required, describe and list equipment:*

List equipment here, or attach. (To ensure it is brought to the site).

**E. PERSONNEL**

Name		Work Location Title/Task			Medical Current	Fit Test Current
Name	Work Location Title/Task	N/A	FA/CPR Current	40 HR Current	Medical Current	Fit Test Current
1. Larry Beard	Project Manager	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Erik Gerking	Field Manager/Health and Safety Coordinator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Site Safety Coordinator: Erik Gerking



**F. ACTIVITIES COVERED UNDER THIS PLAN**

<b>Task No.</b>	<b>Description</b>	<b>Preliminary Schedule</b>
	Monitoring Well Installation	
	GeoProbe Soil Sampling	
	Groundwater Sampling	

**G. SUBCONTRACTOR'S HEALTH AND SAFETY PROGRAM EVALUATION**☐ N/A

Name and Address of Subcontractor: Cascade Drilling

**EVALUATION CRITERIA**

Item	Adequate	Inadequate	Comments
Medical Surveillance Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Personal Protective Equipment Availability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Onsite Monitoring Equipment Availability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Safe Working Procedures Specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Training Protocols	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ancillary Support Procedures (if any)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Emergency Procedures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evacuation Procedures Contingency Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Decontamination Procedures Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Decontamination Procedures Personnel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**GENERAL HEALTH AND SAFETY PROGRAM EVALUATION:** ☒ Adequate ☐ Inadequate

Additional Comments: Landau Associates Basic Agreement in place with Cascade Drilling – copy on file

Evaluation Conducted By: Landau AssociatesDate: February 10, 2006

## EMERGENCY FACILITIES AND NUMBERS

### Hospital:

St. Joseph Hospital  
2901 Squalicum Parkway  
Bellingham, Washington 98225

### Directions:

- 1: Start out going Northeast on Squalicum Way towards W. Harbor Loop Drive (<0.1 miles)
- 2: Turn RIGHT onto Roeder Avenue (0.8 miles)
- 3: Turn LEFT onto F Street (0.8 miles)
- 4: Turn SLIGHT RIGHT onto Alabama Street (<0.1 miles)
- 5: Turn LEFT onto Cornwall Avenue (0.4 miles)
- 6: Turn RIGHT onto Plymouth Drive (<0.1 miles)
- 7: Turn LEFT onto Coolidge Drive (0.2 miles)
- 8: Turn LEFT onto Squalicum Parkway (<0.1 miles)

Total Estimated Time: 8 minutes

Total Distance: 2.6 miles

Telephone: (360) 734-5400

Emergency Transportation Systems (Fire, Police, Ambulance): 911

Emergency Routes: See Map (Attachment B)

### Emergency Contacts:

Onsite	Offsite	Telephone
911	Larry Beard	(425) 778-0907

### **In the event of an emergency, do the following:**

1. Call for help as soon as possible. Call 911. Give the following information:
  - WHERE the emergency is – use cross streets or landmarks
  - PHONE NUMBER you are calling from
  - WHAT HAPPENED – type of injury
  - WHAT is being done for the victim(s)
  - YOU HANG UP LAST – let the person you called hang up first.
2. If the victim can be moved, paramedics will transport to the hospital. If the injury or exposure is not life threatening, decontaminate the individual first. If decontamination is not feasible, wrap the individual in a blanket or sheet of plastic prior to transport.

### HEALTH AND SAFETY PLAN APPROVAL/SIGN OFF FORMAT

I have read, understood, and agreed with the information set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.

_____ Name	_____ Signature	_____ Date
_____ Name	_____ Signature	_____ Date
_____ Name	_____ Signature	_____ Date
_____ Name	_____ Signature	_____ Date
_____ Name	_____ Signature	_____ Date
Erik Gerking _____ Site Safety Coordinator	_____ Signature	_____ Date
Chris Kimmel _____ Landau Health and Safety Manager	_____ Signature	_____ Date
Larry Beard _____ Project Manager	_____ Signature	_____ Date

Personnel Health and Safety Briefing Conducted By:

_____ Name	_____ Signature	_____ Date
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## ATTACHMENT A

## ACTION LEVELS FOR RESPIRATORY PROTECTION

Monitoring Parameter	PID Reading	Level of Protection
Organic Vapors	PID reading > 5 ppm in breathing zone for more than 15 minutes or > 25 ppm for momentary peak	Evacuate area and upgrade to Level C – half face respirator with organic vapor / HEPA combination cartridges
	PID reading > 25 ppm in breathing zone for more than 15 minutes or > 50 ppm for momentary peak	Evacuate area and contact H&S
Petroleum and Metals Contaminated Particulate	Visible Dust ( <b>with</b> dust suppression utilized)	Evacuate area and upgrade to Level C – half face respirator with organic vapor / HEPA combination cartridges

**ATTACHMENT B**  
**MAP TO HOSPITAL**

